

Appln. Serial No. 10/767,681
Amendment Dated January 23, 2008
Reply to Office Action Mailed November 23, 2007

REMARKS

In the Office Action dated November 23, 2007, claims 20-26 were rejected under 35 U.S.C. § 112, ¶ 2; claims 1-4 and 12-15 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,353,828 (Ganesh '828) in view of U.S. Patent No. 7,281,023 (Lou) and U.S. Patent No. 6,714,943 (Ganesh '943); claim 5 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Ganesh '943 and U.S. Patent Application Publication No. 2007/0226220 (Aronoff); claim 5 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Ganesh '943 and U.S. Patent Application Publication No. 2005/0108231 (Findleton); claims 9 and 10 were rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Lou, Ganesh '943, and U.S. Patent No. 5,940,828 (Anaya); claim 11 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Lou, Ganesh '943, Anaya, and U.S. Patent No. 5,442,785 (Roffe); claim 11 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Lou, Ganesh '943, Anaya, and U.S. Patent Application Publication No. 2002/0133494 (Goedken); claim 18 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Lou, Ganesh '943, and U.S. Patent No. 6,581,205 (Cochrane); claim 21 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Ganesh '943, and U.S. Patent No. 6,574,717 (Ngai); claims 20 and 22 were rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Ganesh '943; claim 23 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Ganesh '943, and U.S. Patent No. 6,678,701 (Garth); claims 24 and 25 were rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Ganesh '943, Garth, and U.S. Patent No. 6,567,816 (Desai); and claim 26 was rejected under 35 U.S.C. § 103(a) as unpatentable over Ganesh '828 in view of Ganesh '943, Garth, Desai, and U.S. Patent No. 6,151,601 (Papierniak).

Claim 5 has been cancelled, without prejudice, to render the rejections of the claim moot.

Claim 8 has been cancelled, without prejudice to submitting the claim in a divisional application.

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REJECTION UNDER 35 U.S.C. § 112, ¶ 2

Claims 20-26 were rejected under § 112, ¶ 2 because of the phrase “adapted to.” The Office Action stated that the phrase “adapted to” “suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure [sic] does not limit the scope of a claim or claim limitation.” 11/23/2007 Office Action at 3.

Contrary to the assertion in the Office Action, courts have approved the use of “adapted to” as providing structural limitations. See *In re Venezia*, 189 U.S.P.Q. 149, 151-152 (C.C.P.A. 1976) (“Rather than being a mere direction of activities to take place in the future, this language [“adapted to”] imparts a structural limitation”). The court in *In re Venezia* stated that there is “nothing wrong in defining the structures of the components ... in terms of the interrelationship of the components.” *Id.* at 152.

Therefore, use of “adapted to” in the claims is appropriate. Withdrawal of the § 112, ¶ 2 rejection is respectfully requested.

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REJECTION UNDER 35 U.S.C. § 103

Section 103 Rejection of Independent Claims 1 and 12

Claim 1 was rejected as being obvious over Ganesh '828, Lou, and Ganesh '943. It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 1.

To make a determination under 35 U.S.C. § 103, several basic factual inquiries must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as the U.S. Supreme Court held, it is **important** to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings in the manner that the claimed invention does. *KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Here, a comparison of the claimed subject matter and the teachings of the cited references will reveal that the claimed subject matter differs significantly from the teachings of the cited references.

The Office Action cited Ganesh '828 as disclosing the "receiving" clause of claim 1, and the following phrase of claim 1: "to avoid execution of modification operations of more than one of the at least two base relations at one time in the database system." *Id.* at 4. However, the Office Action conceded that Ganesh '828 fails to disclose the "performing partitioning" clause and the "grouping" clause of claim 1. *Id.* Instead, the Office Action relied upon Lou and Ganesh '943 as disclosing the claimed features missing from Ganesh '828.

Ganesh '828 relates to maintaining a materialized view in response to changes to a base table by performing an incremental maintenance in which the entire materialized view is not regenerated every time a base table is changed. Ganesh '828, 3:15-18. Ganesh '828 also teaches that one transaction can place a lock on base tables of a materialized view such that a second transaction that requests an exclusive lock on the base tables would not be able to; rather, this second transaction would be suspended until the exclusive lock for the first transaction is released. Ganesh '828, 4:15-45.

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The Office Action properly conceded that Ganesh '828 provides no teaching of partitioning received modification operations (that modify at least first and second base relations) by submitting at least some of the modification operations operating on the first base relation to a first session, and submitting at least another of the modification operations that operate on the second base relation to a second session. Instead, the Office Action relied upon Lou, citing specifically to the following passages of Lou: column 6, lines 50-55; column 8, lines 23-50; column 9, lines 1-15; column 23, lines 1-13. Lou teaches an architecture for providing online history images, creating online point-in-time views of application tables, reconstructing equivalent SQL statements of a committed transaction or of a user session, providing a selective audit trail report on demand, and permitting selective online rollbacks. Lou, Abstract.

Lou refers to the concept of different user sessions, where each user session is defined by a user login time and a user logout time. Lou, 8:29-30; 11:18-20. In other words, according to Lou, between user login and logout, a user session is defined in which operations can be performed. However, the fact that a user session is defined by user login and logout, is completely irrelevant to the "performing partitioning" clause of claim 1. In claim 1, modification operations that modify at least first and second base relations are received, and these received modification operations are partitioned by submitting at least some of the modification operations operating on the first base relation to a first session, and submitting at least another of the modification operations that operate on a second base relation to a second session. The concept of partitioning received modification operations based on which base relation the modification operations are operating on does not exist in Lou. All Lou would have suggested to a person of ordinary skill in the art is that a user session can be defined by user login and logout. The concept of partitioning received modification operations to different sessions based on which base tables the modification operations operate on is simply absent in Lou.

The reconstructing of equivalent SQL statements of a user session, as taught by Lou, has nothing to do with partitioning received modification operations by submitting the modification operations to different sessions based on which base relation the modification operations operate on. Thus, the Office Action's reliance on the reconstructing of equivalent SQL statements of a

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committed transaction, and of reconstructing equivalent SQL statements of a user session, as taught by Lou, provides no hint regarding the claimed subject matter.

Similarly, Ganesh '943 provides absolutely no hint of the partitioning recited in claim 1. Ganesh '943 teaches dependency tracking in a database system in which dependencies between transactions are tracked. Ganesh '943, 2:2-32. The Office Action cited specifically to the following passages of Ganesh '943: column 5, lines 1-20; Fig. 2; column 7, lines 22-40. The cited column 5 passage refers to a series of SQL statements in transaction T1. The cited column 7 passage refers to dependency ordering of transactions by determining a parameter dep_SCN. However, tracking dependencies of transactions is completely unrelated to the partitioning performed in claim 1. Also, the Office Action referred to Ganesh '943's teaching regarding committing a transaction; however, committing a transaction provides no hint of partitioning or grouping as recited in claim 1.

Moreover, even though the Office Action conceded that Ganesh '828 fails to disclose the "grouping" clause of claim 1, the Office Action did not explain how either Lou or Ganesh '943 would teach the "grouping" clause of claim 1. Claim 1 recites grouping the at least some of the modification operations in the first session operating on the first base relation into a first transaction. Lou relates to reconstructing equivalent SQL statements of a user session, creating online point-in-time views of application tables, providing selective audit trail reports on demand, and permitting selective online rollbacks; there is absolutely no teaching in Lou of grouping at least some of the modification operations in the first session operating on the first base relation into a first transaction. Ganesh '943 teaches dependency tracking, and provides no hint of the grouping performed in claim 1.

In view of the foregoing, even if Ganesh '828, Lou, and Ganesh '943 can be hypothetically combined, their hypothetical combination would have led to subject matter significantly different from the claimed subject matter; specifically, the hypothetical combination of the references would have provided no hint whatsoever of the "performing partitioning" clause and "grouping" clause of claim 1. For at least this reason, a *prima facie* case of obviousness has not been established with respect to claim 1.

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Independent claim 12 is allowable over Ganesh '828, Lou, and Ganesh '943 for similar reasons as claim 1. Dependent claims of claims 1 and 12 are allowable for at least the same reasons as corresponding independent claims 1 and 12.

Section 103 Rejection of Independent Claim 22 Over Ganesh '828 and Ganesh '943

Independent claim 22 was rejected as being obvious over Ganesh '828 and Ganesh '943. It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to Ganesh '828 and Ganesh '943.

In the rejection, the Office Action conceded that Ganesh '828 does not disclose the re-ordering clause of claim 22, and the grouping clause of claim 22. 11/23/2007 Office Action at 21. Instead, the Office Action relied upon Ganesh '943, *Id.* at 21-22.

The Office Action referred to Ganesh '943's teachings that certain transactions having a dependent SCN of "0" can be ordered before, after, or parallel to any other transaction, and that other transactions having a dependent SCN value of 5 must be scheduled to begin after all other transactions SCN values of 5 or less have completed and committed. The Office Action further referred to column 5, lines 1-20, of Ganesh '943, which illustrates the SQL statements in transaction T1. Fig. 2 of Ganesh '943, also cited by the Office Action, depicts an example sequence of transactions, where rows are inserted into a table.

However, there is no teaching or hint provided in Ganesh '943 of the following subject matter of claim 22. Claim 22 recites that certain of the modification operations on the first base relation include modification operations of a set of one or more tuples of the first base relation, and that the controller is to group the modification operations on the set of one or more tuples of the first base relation into a transaction, and that the transaction is submitted to a database system separate from the first system for execution.

The statements depicted in column 5, lines 1-20, of Ganesh '943 are predefined statements of a particular transaction. However, there is no teaching that the modification operations that operate on a set of one or more tuples of a first base relation are grouped by a controller, as recited in claim 22, in combination with submitting such transaction to a database system separate from the first system for execution.

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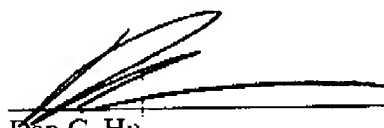
Therefore, even if Ganesh '828 and Ganesh '943 can be hypothetically combined, the hypothetical combination of the references does not disclose or hint at all elements of claim 22. Therefore, claim 22, and its dependent claims, are non-obvious over Ganesh '828 and Ganesh '943.

In view of the allowability of base claims, it is respectfully submitted that the obviousness rejection of dependent claims have also been overcome.

In view of the foregoing, allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 50-4370 (11338).

Respectfully submitted,

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Dan C. Hu
Registration No. 40,025
TROP, PRUNER & HU, P.C.
1616 South Voss Road, Suite 750
Houston, TX 77057-2631
Telephone: (713) 468-8880
Facsimile: (713) 468-8883